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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/756,097 Confirmation No.: 5648

Applicant : MITCHELL et al.

Filed : January 8, 2001

TC/A.U. : 1623

Examiner : Unassigned

Docket No. : 027705.00013

Customer No. : 38485

For : METHODS AND COMPOSITIONS FOR USE IN SPLICEOSOME  
MEDIATED RNA TRANS-SPLICING IN PLANTS

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: June 29, 2006

**INFORMATION DISCLOSURE STATEMENT**

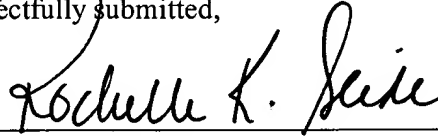
Sir:

Pursuant to 37 C.F.R. §§1.97 and 1.98, applicants respectfully request that the documents listed on the accompanying PTO 1449 be considered by the Examiner and made of record in the above-referenced application.

Identification of the listed documents is not to be construed as an admission of the applicants or attorneys for applicants that such citations are available as "prior art" against the subject application. If the Examiner applies the documents as prior art against any claim in the application and applicants determine that the cited documents do not constitute "prior art" under United States law, applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of the documents. Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should the documents be applied against the claims of the present application.

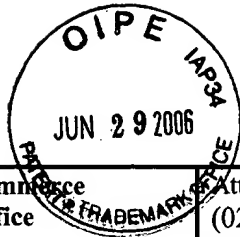
Applicants believe that there is no fee required for this submission. However, if any fee is required, or if any overpayment has been made, the Commissioner is hereby authorized to charge any fees, or credit or any overpayments made, to Deposit Account 01-2300 referencing Attorney Docket No. 027705.00013.

Respectfully submitted,

A handwritten signature in black ink, reading "Rochelle K. Seide". The signature is written in a cursive style with a large, looping initial "R".

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<b>Form PTO-1449 U.S. Department of Commerce (REV. 2-82) Patent and Trademark Office</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary)	Atty. Docket No. (027705.00013)	Serial No. 09/756,097
	Applicant Mitchell et al.	
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**U.S. PATENT DOCUMENTS**

Exam. Initial.	No.	Document No.	Date	Name	Class	Subclass	Filing Date if Approximate.
	14	6,280,978	8/28/ 2001	Mitchell, et al.			
	15	6,083,702	7/4/ 2000	Mitchell, et al.			
	16	5,998,205	12/ 7/ 1999	Hallenbeck, et al.			
	17	5,962,313	10/5/1999	Podsakoff, et al.			
	18	5,962,311	10/ 5/ 1999	Wickham, et al.			
	19	5,952,221	9/14/ 1999	Kurtzman, et al.			
	20	5,932,210	8/ 3/ 1999	Gregory, et al.			
	21	5,928,944	7/27/ 1999	Seth, et al.			
	22	5,922,576	7/ 13/ 1999	He, et al.			
	23	5,919,676	7/ 6/ 1999	Graham, et al.			
	24	5,891,690	4/ 6/ 1999	Massie			
	25	5,885,808	3/ 23/ 1999	Spooner, et al.			
	26	5,877,011	3/2/ 1999	Armentano, et al.			
	27	5,871,982	2/ 16/ 1999	Wilson, et al.			

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	28	5,869,037	2/ 9/ 1999	Crystal, et al.			
	29	5,858,351	1/ 12/ 1999	Podsakoff, et al.			
	30	5,851,806	12/ 22/ 1998	Kovesdi, et al.			
	31	5,843,742	12/ 1/ 1998	Natsoulis, et al.			
	32	5,837,484	11/ 17/ 1998	Trempe, et al.			
	33	5,820,868	10/ 13/ 1998	Mittal, et al.			
	34	5,789,390	8/ 4/ 1998	Descamps, et al.			
	35	5,756,283	5/26/ 1998	Wilson, et al.			
	36	5,747,072	5/ 5/ 1998	Davidson, et al.			
	37	5,731,172	3/ 24/ 1998	Saito, et al.			
	38	5,700,470	12/ 23/ 1997	Saito, et al.			
	39	5,670,488	9/ 23/ 1997	Gregory, et al.			
	40	5,616,326	4/1 1/ 1997	Spibey			
	41	5,589,377	12/ 31/ 1996	Lebkowski, et al.			
	42	5,585,362	12/ 17/ 1996	Wilson, et al.			

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	43	5,354,678	10/ 11/ 1994	Lebkowski, et al.			
	44	4,980,286	12/ 25/ 1990	Morgan, et al.			
	151	6,013,487	1/11/00	Mitchell			

FOREIGN PATENT DOCUMENTS							
Exam Initial	No.	Document No.	Date	Country	Class	Subclasses	Translation Yes No
	102	WO 89/10134	11/02/89	PCT			
	110	WO 88/09810	12/15/88	PCT			
	152	WO 00/09734	2/24/00	PCT			
	153	WO 98/11241	3/19/98	PCT			

Exam Initial	No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
	1	United States Patent Application Serial No. 10/693,192, filed October 23, 2003, "Screening Method for Identification of Efficient Pre-Trans-Splicing Molecules," Mitchell et al.
	2	United States Patent Application Serial No. 10/434,727, filed May 8, 2003, "Use of Sliceosome Mediated RNA Trans-Splicing to Confer Cell Selective Replication to Adenoviruses," Otto et al.

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	3	United States Patent Application Serial No. 10/374,784, filed February 25, 2003, "Trans-Splicing Mediated Imaging of Gene Expression," Mitchell et al.
	4	United States Patent Application Serial No. 10/360,787, filed June 5, 2002, " Spliceosome Mediated RNA Trans-Splicing for Correction of Factor VIII Genetic Defects," Mitchell et al.
	5	United States Patent Application Serial No. 10/198,447, filed July 17, 2002, "Spliceosome Mediated RNA Trans-Splicing for Correction of Skin Disorders," Mitchell et al.
	6	United States Patent Application Serial No. 10/136,723, filed April 30, 2002, "Transgenic Animal Model for Spliceosome-mediated RNA Trans-Splicing," Puttaraju et al.
	7	United States Patent Application Serial No. 10/103,294, filed March 20, 2002, "Spliceosome Mediated RNA Trans-Splicing," Mitchell et al.
	8	United States Patent Application Serial No. 10/075,028, filed February 12, 2002, "Methods and Compositions for Use in Spliceosome Mediated RNA Trans-Splicing," Mitchell et al.
	9	United States Patent Application Serial No. 10/076,248, filed February 12, 2002, "Methods and Compositions for Use in Spliceosome Mediated RNA Trans-Splicing," Mitchell et al.
	10	United States Patent Application Serial No. 09/838,858, filed April 20, 2001, "Methods and Compositions for Use in Spliceosome Mediated RNA Trans-Splicing," Mansfield et al.
	11	United States Patent Application Serial No. 09/756,097, filed Jan. 8, 2001, "Methods and Compositions for Use in Spliceosome Mediated RNA Trans-Splicing," Mitchell et al.
	12	United States Patent Application Serial No. 09/756,095, filed Jan. 8, 2001, "Methods and Compositions for Use in Spliceosome Mediated RNA Trans-Splicing," Mitchell et al.

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	13	United States Patent Application Serial No. 09/756,096, filed Jan. 8, 2001, "Methods and Compositions for Use in Spliceosome Mediated RNA Trans-Splicing," Mitchell et al.
	45	Bhaumik et al., "Molecular Imaging of Gene Expression in Living Subjects by Spliceosome-Mediated RNA Trans-Splicing," June 8, 2004, Proc. Natl. Acad. Sci., 101:23:8693-8698.
	46	Tahara et al., "Trans-Splicing Repair of CD40-Ligand Deficiency Results in Naturally Regulated Correction of A Mouse Model of Hyper-IgM X-Linked Immunodeficiency," August 2004, Nature Medicine, 10:835-841.
	47	Chao et al., "Phenotype Correction of Hemophilia A Mice by Spliceosome-Mediated RNA Trans-Splicing," August 2003, Nature Medicine, 9:1-5.
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	49	Kim et al., "Role of the Nonsense-Mediated Decay Factor hUpf3 in the Splicing Dependent Exon-Exon Junction Complex," September 7, 2001, Science 293:1832-1836.
	50	Kirn et al., "Replication-Selective Virotherapy for Cancer: Biological Principles, Risk Management and Future Directions," July 2001, Nat. Med. 7:781-787.
	51	Tian et al., "Strong RNA Splicing Enhancers Identified by a Modified Method of Cycled Selection Interact with SR Protein," September 7, 2001, J. Biological Chemistry 276:33833-33839.
	52	Mansfield et al., "Repair of CFTR mRNA by Spliceosome-Mediated RNA Trans-Splicing," July 28, 2000, Gene Therapy 7:1885-1895.
	53	Tacke et al., "Determinants of SR Protein Specificity," 1999, Curr. Opin. Cell Biol. 11:358-362.
	54	He et al. "A Simplified System for Generating Recombinant Adenoviruses," March 1998, Proc. Natl. Acad. Sci., 95, 2509-2514.

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	58	Bellet et al., "Malignant Transformation of Nontrophoblastic Cells is Associated With the Expression of Chorionic Gonadotropin $\beta$ Genes Normally Transcribed Introphoblastic Cells," February 1, 1997, Cancer Res. 57:516-523.
	59	Coolidge et al., "Functional Analysis of The Polypyrimidine Tract in Pre-mRNA Splicing," 1997, Nucleic Acids Res. 25:888-896.
	60	Crouzet et al. "Recombinational Construction in Escherichia Coli of Infectious Adenoviral Genomes," February 1997, Proc. Natl. Acad. Sci., 94, 1414-1419.
	61	Good et al., "Expression of Small, Therapeutic RNAs in Human Cell Nuclei," 1997, Gene Ther. 4:45-54.
	62	Malek et al., "Evolution of Trans-Splicing Plant Mitochondrial Introns in Pre-Permian Times," January 1997, Proc. Nat'l. Acad. Sci., 94:553-558.
	63	Chartier, et al., "Efficient Generation of Recombinant Adenovirus Vectors by Homologous Recombination in Escherichia Coli," July 1996, Virol. 70, 4805-4810.
	64	Hoon et al., "Detection of Metastatic Breast Cancer by $\beta$ -hCG Polymerase Chain Reaction," 1996, Int J. Cancer 69:369-374.
	65	Jone et al., "Tagging Ribozyme Reaction Sites to Follow Trans-Splicing in Mammalian Cells," June 1996, Nature Medicine 2:643-648.

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	67	Miyake et al. "Efficient Generation of Recombinant Adenoviruses Using Adenovirus DNA-Terminal Protein Complex and A Cosmid Bearing the Full-Length Virus Genome," February 1996, Proc. Natl. Acad. Sci., 93, 1320-1324.
	68	Nilsson et al., "Multiple Affinity Domains for the Detection, Purification, and Immobilization of Recombinant Proteins," 1996, J. Mol. Recognition, 9:585-594.
	69	Pasman et al., "The 5' and 3' Splice Sites Come Together Via a Three Dimensional Diffusion Mechanism," 1996, Nucleic Acids Res. 24(9):1638-1645.
	70	Boelens et al., "Nuclear Retention of RNA as a Mechanism for Localization" 1995, RNA 1:273-283.
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	73	Davis et al., "RNA Trans-Splicing in Flatworms," September 15, 1995, J. Biol. Chem. 270:21813-21819.
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	76	Bett et al. "An Efficient and Flexible System for Construction of Adenovirus Vectors with Insertions or Deletions in Early Regions 1 and 3," September 1994, Proc. Natl. Acad. Sci., 91,8802-8806.
	77	Hollenberg et al., "Multiple Promoter Elements in the Human Chorionic Gonadotropin B Subunit Genes Distinguish their Expression from Luteinizing Hormone $\beta$ Gene," 1994, Mol. Cell Endo., 106:111-119.
	78	Ketner et al. "Efficient Manipulation of the Human Adenovirus Genome as an Infectious Yeast Artificial Chromosome Clone," June 1994, Proc. Natl. Acad. Sci., 91, 6186-6190.

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	79	Sullenger et al., "Ribozyme-Mediated Repair of Defective mRNA by Targeted Trans-Splicing," October 1994, Nature 371:619-622.
	80	Goldspiel et al., "Human Gene Therapy," July 1993, Clinical Pharmacy 12:488-505.
	81	Kozarsky and Wilson et al., "Gene Therapy: Adenovirus Vectors," 1993, Current Opinion in Genetics and Development 3:499-503.
	82	Miller and Rosman, "Use of Retroviral Vectors for Gene Transfer and Expression," 1993, Meth. Enzymol. 217:581-599.
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	85	Morgan and Anderson, "Human Gene Therapy," 1993, Ann. Rev. Biochem. 62:191-217.
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	88	Tolstoshev, Paul, "Gene Therapy, Concepts, Current Trials, and Future Directions," 1993, Ann. Rev. Pharmacol. Toxicol. 33:573-596.
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	90	Bruzik et al., "Spliced Leader RNAs from Lower Eukaryotes are Trans-spliced in Mammalian Cells," December 1992, Nature 360:692-695.
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	93	Ghattas et al., "The Encephalomyocarditis Virus Internal Ribosome Entry Site Allows Efficient Coexpression of Two Genes from a Recombinant Provirus in Culture Cells and in Embryos," December 1991, Mol. Cell Biol. 11:5848-5859.
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	96	Wu and Wu, "Delivery Systems for Gene Therapy," 1991, Biotherapy 3:87-95.
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	98	Rajkovic et al., "A Spliced Leader is Present on a Subset of mRNAs from the Human Parasite Schistosoma Mansoni" November 1990, Proc. Nat'l. Acad. Sci., 87:8879-8883.
	99	Schneider and Banes, "Building Blocks for Oligonucleotide Analogs with Dimethylene-Sulfide-Sulfoxide and Sulfone Groups Replacing Phosphodiester Linkages," 1990, Tet. Letters, 31:335-338.
	100	Senapathy et al., "Splice Junctions, Branch Point Sites, and Exons: Sequence Statistics, Identification, and Applications to Genome Project," 1990, Methods In Enzymology, 183:252-278.
	101	Uhlmann and Peyman, "Antisense Oligonucleotides: A New Therapeutic Principle," June 1990, Chemical Reviews, 90:543-584.
	103	Kerem et al., "Identification of the Cystic Fibrosis Gene: Genetic Analysis," September 8, 1989, Science, 245:1073-1080.
	104	Letsinger et al., "Cholesteryl-Conjugated Oligonucleotide: Synthesis, Properties, and Activity as Inhibitors of Replication of Human Immunodeficiency Virus in Cell Culture, " September 1989, Proc. Natl. Acad. Sci., 86:6553-6556.

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	105	Reed, Robin, "The Organization of 3' Splice Sites Sequences in Mammalian Introns," 1989, Genes Dev. 3:2113-2123.
	106	Riordan et al., "Identification of the Cystic Fibrosis Gene: Cloning and Characterization of Complementary DNA," 1989, Science, 245:1066-1073.
	107	Rommens et al., "Identification of the Cystic Fibrosis Gene: Chromosome Walking and Jumping," September 8, 1989, Science, 245:1059-1065.
	108	Shimizu et al., "Immunoglobulin Double-Isotype Expression by Trans-mRNA In a Human Immunoglobulin Transgenic Mouse," October 1989, Proc. Nat'l. Acad. Sci. 86:8020-8023.
	109	Smith et al., "Scanning From an Independently Specified Branch Point Defines the 3' Splice Site of Mammalian Introns," 1989, Nature, 342:243-247.
	111	Van der Krol et al., "Modulation of Eukaryotic Gene Expression by Complementary RNA or DNA Sequences," 1988, BioTechniques, 6:958-976.
	112	Reed & Maniatis, "The Role of The Mammalian Branchpoint Sequence In the Pre-mRNA Splicing," 1988, Genes Dev. 2:1268.
	113	Smith et al, "Single-Step Purification of Polypeptides Expressed in Escherichia Coli as Fusions with Glutathione S-Transferase," 1988, Gene, 67:31.
	114	Zon et al., "Oligonucleotide Analogues as Potential Chemotherapeutic Agents," 1988, Pharm. Res., 5:539-549.
	115	Krause M et al., "A Trans-Spliced Leader Sequence on Actin mRNA in C. Elegans," 1987, Cell 49:753-761.
	116	Lemaitre et al., "Specific Antiviral Activity of a Poly(L-lysine)-Conjugated Oligodeoxyribonucleotide Sequence Complementary to Vesicular Stomatitis Virus N Protein mRNA Initiation Site," 1987, Proc. Natl. Acad. Sci., 84:648-652.
	117	Wu and Wu, "Receptor-Mediated in Vitro Gene Transformation by a Soluble DNA Carrier System," 1987, J. Biol. Chem., 262:429-4432.
	118	Dingwall and Laskey, "Protein Import into the Cell Nucleus," 1986, Ann. Rev. Cell Biol. 2:367-390.

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	119	Murphy et al., "Identification of a Novel Y Branch Structure as an Intermediate in Trypanosome mRNA Processing: Evidence for Trans Splicing," 1986, Cell, 47:517.
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<b>Form PTO-1449 U.S. Department of Commerce (REV. 2-82) Patent and Trademark Office</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary)	Atty. Docket No. (027705.00013)	Serial No. 09/756,097
	Applicant Mitchell et al.	
	Filing Date January 8, 2001	Group 1623
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